

Irwin Industrial Tools GmbH
I30180PCT

Claims

1. A clamping and/or spreading tool including a push or pull rod, wherein a gear mechanism for displacing said push or pull rod in a clamping and/or spreading direction and a lock independent of said gear mechanism block displacement of said push or pull rod contrary to said clamping and/or spreading direction, a releasing means, when actuated, cancelling the blocking effect of said gear mechanism and of said lock.
2. The clamping and/or spreading tool as claimed in claim 1, wherein said releasing means, when actuated, cancels the blocking effect of said gear mechanism and of said lock substantially simultaneously.
3. The clamping and/or spreading tool as claimed in claim 1, wherein said releasing means, when actuated, cancels the blocking effect of said gear mechanism and of said lock successively, particularly cancelling the blocking effect of said gear mechanism before the blocking effect of said lock.
4. The clamping and/or spreading tool as claimed in any of the claims 1 to 3, wherein said releasing means comprises a trigger with which a component for communicating the actuating motion of said trigger is coupled, said component acting releasingly on said gear mechanism and lock when said trigger is actuated.
5. The clamping and/or spreading tool as claimed in any of the claims 1 to 3, wherein said releasing means comprises a trigger which when actuated acts releasingly indirectly via a component to communicate the actuating motion of said trigger to said gear mechanism and directly to said lock.
6. The clamping and/or spreading tool as claimed in claim 4 or 5, wherein said component is a spring biased bar mounted displacingly preferably in the longitudinal direction thereof and comprising at least one entraining protuberance which on actuation of said

trigger acts on an entraining element canted by said biasing means of said gear mechanism and/or on said lock canted by a biasing means to cancel said cant.

7. The clamping and/or spreading tool as claimed in any of the claims 4 to 6, wherein said trigger is pivotally mounted on a support displacingly mounting said push or pull rod, the pivot mount of said trigger being located substantially level with said push or pull rod.
8. The clamping and/or spreading tool as claimed in any of the claims 1 to 7, wherein in addition to said gear mechanism and said lock at least one further locking part counteracting displacement of said push or pull rod in said clamping and/or spreading direction is provided, said locking part being releasable particularly before release of said actuating mechanism and formed particularly by a trigger acting on said lock and gear mechanism, said trigger comprising a passive locking position and at least one or two, preferably at least three, active release positions.
9. The clamping and/or spreading tool as claimed in particularly in any of the claims 1 to 8, comprising a push or pull rod, at least one lock blocking displacement of said push or pull rod contrary to said clamping and/or spreading direction by it being canted by at least one biasing means, such as a spring, more particularly a thrust spring, relative to said push or pull rod, and a releasing means which when actuated cancels the blocking effect of said lock, at least one plate of said lock for canting said push or pull rod displacingly mounted on a support of said clamping and/or spreading tool by said biasing means being pivoted about a point fixed relative to said support, said point being defined particularly on the clamping side of said push or pull rod on said support, characterized in that said fixed point about which said plate of said lock is pivoted and a point of contact about which at least one entraining plate of said gear mechanism is pivoted for its canting with said push or pull rod are arranged substantially level with said push or pull rod.
10. The clamping and/or spreading tool as claimed in claim 9, characterized in that at least one biasing means and said releasing means functionally engage said lock at least on opposite sides of said push or pull rod.

11. The clamping and/or spreading tool as claimed in claim 10, characterized in that a biasing means engages said lock on an actuating side of said push or pull rod and said releasing means on a clamping side of said push or pull rod.
12. The clamping and/or spreading tool as claimed in claim 10, characterized in that a biasing means engages said lock on a clamping side of said push or pull rod and said releasing means on an actuating side of said push or pull rod.
13. The clamping and/or spreading tool as claimed in any of the claims 9 to 12 or as claimed in the preamble of claim 1, characterized in that two biasing means are provided for canting said at least one lock, a first biasing means being arranged at said actuating side of said push or pull rod and a second biasing means on said clamping side of said push or pull rod.